UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,775	07/20/2000	Norman F. Krasner	02344.P037X	3595

23696 7590 09/21/2006

QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER	
CHOW, CHARLES CHIANG	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/619,775	KRASNER, NORMAN F.	
	Examiner	Art Unit	
	Charles Chow	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *44-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *44-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

1. This office action is for the RCE received on 8/12/2006.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 44-45, 47-49, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard (US 5,119,101) in view of Hakalin et al. (US 6,577,603).

For claim 44, Barnard teaches a method [col. 3, lines 8-21,Fig. 3]of determining of a Doppler search window [Doppler frequency offset, abstract, as the Doppler search window] for acquiring a satellite positioning system signal [the transmitting frequency ftx & observed frequency frx in col. 5, lines 57-68] by a mobile communication device MCD [mobile vehicle 15],

the determining the Doppler search window based on the approximation motion information [the Doppler effect due to relative vehicle and satellite motion having true frequency offset, Δf-Δd in col. 5, lines 33-44; the Doppler frequency offset frx-ftx due to relative velocity v in col. 5, lines 57-68; The received Doppler offset due to vehicle motion is depending vehicle heading relative to satellite, col. 6, lines 14-40].

Barnard fails to teach the following features which is taught by Hakalin,

the receiving a cellular communication signal [receiving signal samples with signal strength, col. 3, lines 29-38. Fig. 2-3],

the determining a change in the received cellular communication signal resulting from motion of the mobile communication device; converting the change in the received cellular

communication signal to approximate motion information [comparing instantaneous strength value with the calculated mean strength, the speed is derived from the number of transitions within a given time; col. 3, lines 44-52, abstract], for a better determined speed information by utilizing the received signals, to fit the fading environment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to upgrade Barnard with Hakalin's speed determination, such that the determined speed could fit the fading environment.

For claim 45, Barnard fails to teach the features for this claim. Hakalin teaches the change in the received cellular communication signal resulting from motion of the MCD is represented by the fluctuation of received signal due to Ralyleigh fading [the fluctuation in col. 3, lines 44-46, the fading in Fig. 2, col. 3, lines 17-28 & col. 3, lines 53-64], using the same reasoning in claim 44 for Hakalin to combine with Barnard.

For claim 47, Barnard fails to teach the features for this claim. Hakalin teaches the change in the received cellular communication signal resulting from motion of the MCD is represented by the transmit power of the MCD [the received signal strength in Fig. 3 is proportional to the transmitted power], using the same reasoning in claim 44 for Hakalin to combine with Barnard.

For claim 48, Barnard fails to teach the features for this claim. Hakalin teaches wherein converting the change in the received cellular communication signal to approximate motion information comprises accessing a lookup table and converting the change in the received cellular communication to approximate motion information based on entries in the lookup table [Fig. 2 can be in lookup table format, for converting fading signal strength to speed, motion, information point 204 represent speed 5 kilometers/hour, point 206 represent 50

kilometers/hour, Fig. 2, col. 3, lines 24-28], using the same reasoning in claim 44 for Hakalin to combine with Barnard.

For claim 50, Barnard fails to teach the features for this claim. Hakalin teaches wherein converting the change in the received cellular communication signal to approximate motion information comprises accessing a graph containing a representation between the change in the received cellular communication signal and approximate motion information and interpolating the approximate motion information from a point on the graph that corresponds to the change in the received cellular communication signal [point 204 represent speed 5 kilometers/hour, point 206 represent 50 kilometers/hour, Fig. 2, col. 3, lines 24-28].

3. Claims 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard in view of Hakalin, as applied to claim 44 above, and further in view of Gilhousen (US 5,859,612).

For claim 46, Hakalin teaches the measuring of the speed of mobile terminal.

Barnard & Hakalin fail to teach the change in the received cellular communication signal resulting from position change, associated with the motion of the MCD, is represented by the power control commands that control the transmit power of the MCD.

Gilhousen teaches these features [the determining of the position of mobile station in col. 1, lines 8-15 & steps 130 & 190 of Fig. 1; the power control circuitry 438, having the command controlling bits from cell-site to adjust the transmit power of a mobile subscriber station in col. 27, line 66 to col. 28, line 12; the AGC power controlling in col.25, lines 31-40; col. 11, lines 5-14], to improve the method for controlling the transmit power, in order to determine the position of a mobile station [abstract, in Fig. 14, 16, in col. 1, line 8-15]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to upgrade Barnard, Hakalin with Gilhousen's power controlling command for the

determination of the position of a mobile station, in order to correct the communication link with proper power level due to position change of the mobile station.

4. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard in view of Hakalin, as applied to claim 44 above, and further in view of Takenaka et al. (US 5,585,805).

For claim 49, Barnard fails to teach the features for this claim. Hakalin teaches the wherein converting the change in the received cellular communication signal to approximate motion information based on a known mathematical relation between the approximate motion information and change in received cellular communication signal [the mathematical relationship, in Fig. 2, can provide the conversion from fading signal strength to speed information, col. 3, lines 24-28], using the same reasoning in claim 44 for Hakalin to combine with Barnard.

Hakalin fails to teach the a wavelength of the received cellular communication signal. Takenaka et al. [Takenaka] teaches these features [the speed v can be derived from wave length & Doppler frequency fD, col. 5, lines 21-30; col. 6, lines 52-64], in order to conveniently derived the speed information from Doppler frequency.
Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to upgrade Barnard, Hakalin with Takenaka's wavelength λ in equation $fD=v/\lambda$, in order to conveniently derived the speed information from Doppler frequency.

Response to Argument

5. Applicant's arguments with respect to claims 8/21/2006 have been considered but are moot in view of the new ground(s) of rejection.

Regarding the argument that Ando does not teach the determining of the moving speed of the GPS receiver & there is no teaching from Ando of the cellular or wireless communication system & no motion information from Kanai [pages 4-5 of applicant's amendment],

the ground of rejection has been changed by using **Barnard (US 5,119,101) & Hakalin et al. (US 6,577,603).**

Barnard teaches dead reckoning system on mobile vehicle 15 for measuring vehicle speed by receiving reflected transmitting signal [col. 8, lines 54-67], the Doppler frequency offset due to user movement [abstract; the Doppler effect due to relative vehicle and satellite motion having true frequency offset of Δf-Δd in col. 5, lines 33-44; the Doppler frequency offset frx-ftx due to relative velocity v in col. 5, lines 57-68; the vehicle received Doppler offset due to vehicle motion is depending on vehicle heading relative to satellite, col. 6, lines 14-40].

Hakalin et al. teaches the measuring of speed of the mobile terminal based on the number to transitions of the signal strength value within a given time [abstract, Fig. 2-4, col. 3, lines 44-52].

Applicant claim 44 does not structure well for usung the determined Doppler search window for acquiring satellite, therefore, it is suggested to insert a last sentence as below: ----acquiring said satellite positioning system using the determined Doppler search window----.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles C. Chow whose telephone number is (571) 272-7889. The examiner can normally be reached on 8:00am-5:30pm. If attempts to reach the examiner by

telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow CC.

September 11, 2006.

EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600